

## Report

# The Nutrient Data Laboratory Web site gets a new look

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Received 3 August 2004; received in revised form 11 January 2006; accepted 15 January 2006

## Abstract

The Nutrient Data Laboratory Web site, along with all Agricultural Research Service (ARS) Web sites, has a new look. The basic appearance is similar to the United States Department of Agriculture Web site, but with some navigational categories unique to ARS sites. The purpose of these changes is to make ARS Web sites more uniform in navigation, enhancing overall ease of use. Navigation tools now found on our Web site include links to: About Us, Research, Products & Services, People and Places, News and Events, Partnering, and Careers. Partnering, a section recently added to the Web site, includes information detailing our numerous research collaborations with scientists in educational institutions, research laboratories, the food industry and other federal agencies as well as our award-winning partnerships for technology transfer. The online search program, our most frequently accessed feature, remains prominently displayed on our Home Page, continuing to give users fast access to nutrient information on a specific food. This popular program has been upgraded, supporting enhanced search techniques and the capability to customize portion sizes for food component reports. The NDL Web site is the principal means of dissemination of food composition data from the National Nutrient Databank System and receives an average of over 110,000 visitors per month.

Published by Elsevier Inc.

**Keywords:** Nutrient Data Laboratory Web site

## 1. Introduction

The Nutrient Data Laboratory (NDL) is one of seven units in the Beltsville Human Nutrition Research Center of the Agricultural Research Service (ARS). NDL and its predecessor organizations in the United States Department of Agriculture (USDA) have been compiling and developing food composition databases for over a century. These data are used as the foundation of most other database applications in the United States and are used by many international databases as well.

In 1992, the NDL first established a Web site, providing a dissemination site for all of its database products as well as important historical documents such as W.O. Atwater's publication, *The Chemical Composition of American Food Materials* (Atwater and Woods, 1896). Over the years, additional information and services have been added to the Web site, including an online search program to allow

users to readily access data on a single food item, copies of staff publications, new special interest databases, and a variety of links to other helpful sites. Major accomplishments in USDA nutrient data are illustrated in Fig. 1.

In 2003, the Agricultural Research Service announced that all Web sites would be required to adopt a common look based on the USDA Web site, but with a tabular structure unique to ARS. The final date for this changeover to be completed was November 1, 2005. Although each management unit continues to be responsible for specific content of its site, a content management system applies the overall design and populates certain information into each Web site.

## 2. Navigating the Web site

The URL for the redesigned ARS Web sites incorporates the organizational structure. Thus, the Nutrient Data Laboratory, which is part of the Beltsville Area (BA) Beltsville Human Nutrition Research Center (BHNRC) has the following URL: [www.ars.usda.gov/ba/bhnrc/ndl](http://www.ars.usda.gov/ba/bhnrc/ndl).

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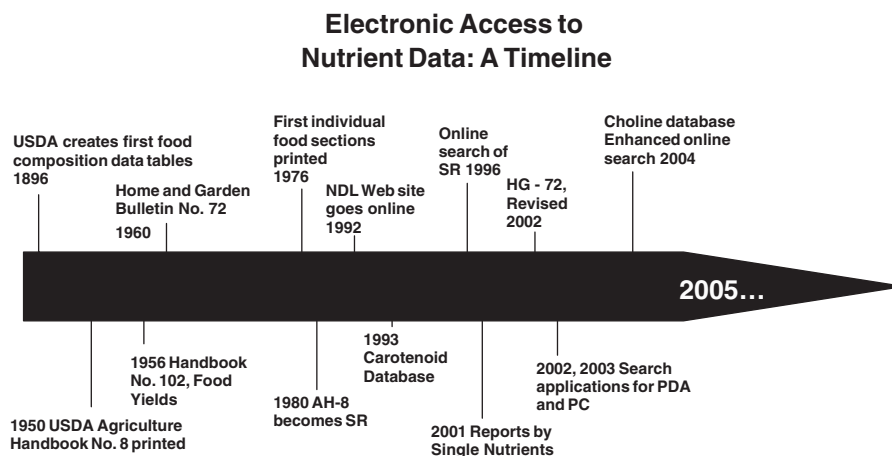


Fig. 1. Timeline of USDA food composition data.

A modification of the original ARS template was announced and modifications were instituted through the content management system in December 2005. This modification makes all ARS Web sites compliant with the USDA style guide. Five category links to the ARS Web site now appear in the top navigation bar: ARS Home, About ARS, Contact Us, Help, and the ARS Spanish site, En Español. The left navigation bar is used to navigate the NDL Web site itself. When a category is selected on the left navigation bar, the category expands to reveal all related links. For example, on the NDL Web site, clicking on Products and Services, will cause that category to expand to show all of the databases and products that NDL has available to users.

NDL has found through usage statistics, that the most frequently accessed product on its Web site is the online search program. To minimize navigation for users of the search program, NDL chose to highlight that program, along with links to the two downloadable search applications, on its Home Page. The current version of the Home Page of the NDL Web site, incorporating the USDA design changes, is shown in Fig. 2.

The top level of tabs on all ARS Web sites allows users to access the specific management unit as well as the parent organizational units. Thus, from NDL's Web site, users will be able to easily access the ARS Home Page, the Beltsville Agricultural Research Center, or the Beltsville Human Nutrition Research Center.

### 3. Specific information about the NDL Web site navigation categories

**Home:** The online search program, a link to the downloadable search programs, and a brief introduction to NDL.

**About Us:** This includes the NDL mission statement, a description of NDL's major projects, and links to other food composition and nutrition resources.

**Research:** This category is not written by NDL, but rather is automatically populated from the Agricultural

Research Information System (ARIS). A sample page, with NDL's 2 appropriated projects, is shown in Fig. 3. Selection of "All Projects" brings up 9 additional projects, the National Food and Nutrient Analysis Program and 8 specific cooperative agreements for research on nutrients of emerging interest (e.g. fluoride) or specific categories of food (e.g. poultry). By clicking on a project, the user can obtain detailed information about the project, including the project team, annual reports, publications and related projects. Other research being conducted by ARS can also be accessed from this area.

**Products & Services:** Because the Nutrient Data Laboratory's main method of dissemination is through its Web site, this is the most crucial category on our Web site. Here we provide links to download our premier database, the USDA National Nutrient Database for Standard Reference, as well as links to all of our special interest databases, reports by single nutrients, and search programs. This category also contains all of the information that has traditionally been found under Food Composition Products on our original Home Page, including a glossary and measurement conversion tables. Our current products are shown in Fig. 4.

**People & Places:** This category provides staff directory information populated automatically by ARS, as well as other information provided by NDL (e.g. visitor information and travel directions).

**News & Events:** This category is used for newsworthy events such as recent database releases, software products, or meetings hosted by NDL.

**Partnering:** NDL has listed many of its valued partners in other government agencies, industry and trade associations, and universities. In addition, a link to the Beltsville Office of Technology Transfer is provided for people interested in developing cooperative interactions with NDL.

**Careers:** Any NDL job openings will be listed here, along with other human resource information. Students and educators are encouraged to read the information on USDA student and internship opportunities.

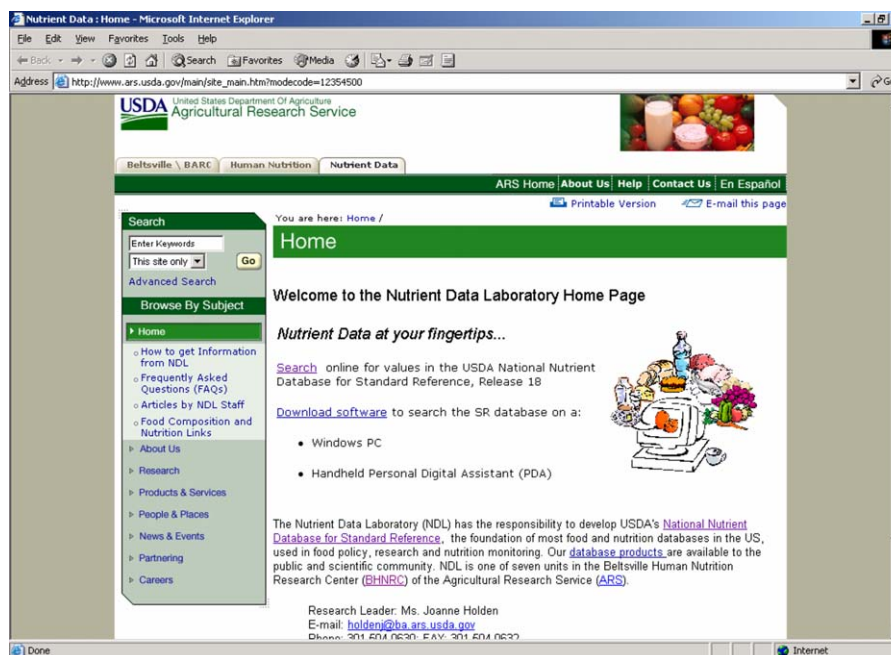


Fig. 2. NDL Home Page, compliant with USDA style guide.

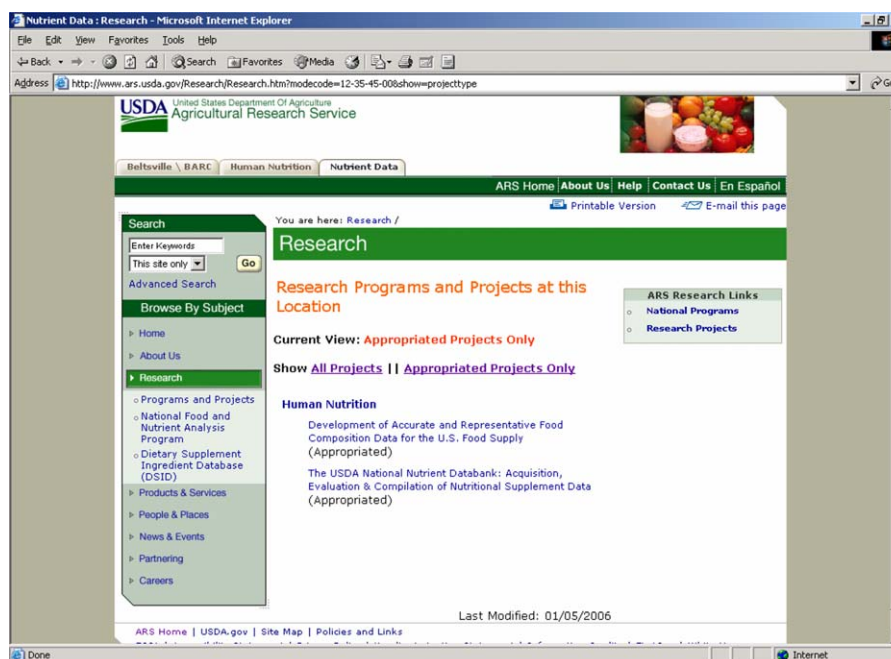


Fig. 3. Research: appropriated projects.

#### 4. Web statistics

Web statistics help NDL continually improve its site to best meet the needs of its customers. Statistics available through the host of NDL's Web site, the National Agricultural Library's Food and Nutrition Information Center, include monthly statistics on number of hits (by day, by weekday and hour and by country), the items/URLs accessed, and client domains. These statistics help us understand our customer base and guide us in making

decisions about upgrades to our Web site. For example, statistics show that the online search program is responsible for approximately 25% of the usage of our Web site. The popularity of this program has prompted NDL to make it easily accessible on our site's Home Page and to make numerous improvements to it since it was first developed in 1996. Major changes made to the online search program include addition of the capability for users to customize portion sizes and inclusion of common names in the keyword search (i.e. hot dog and wiener for frankfurter).

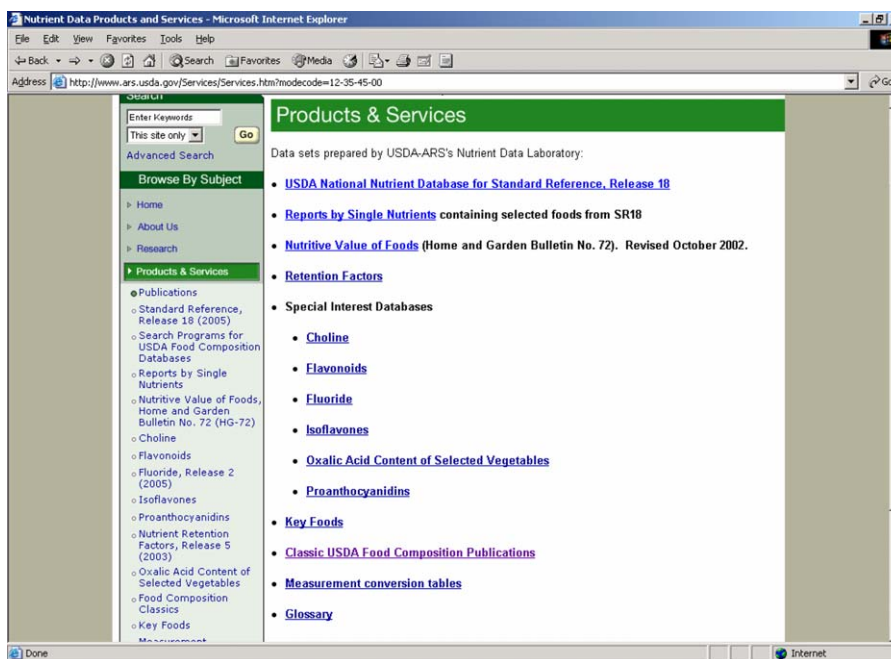


Fig. 4. Products &amp; services.

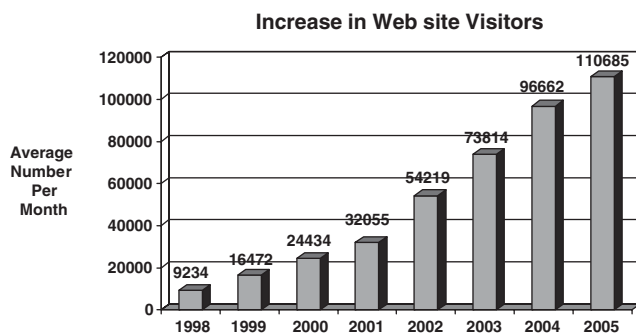


Fig. 5. Increase in Web site visitors from 1998 to 2005.

Other pages accessed most frequently include: Reports by single nutrients, SR data and documentation, Food Composition and Nutrition links, How to get information from NDL, PC and PDA search application downloads, and FAQs.

Fig. 5 shows the average number of visitors to the NDL Web site per month over a period of time from 1998 to 2005.

These statistics are based on unique hits, avoiding multiple counting of a visitor accessing a variety of pages in a session. The number of visitors has increased dramatically from 9234 in 1998 to a level of 110,685 in 2005. Increases have been particularly high since 2001. This rise may be associated with the release of the downloadable search applications and as well as the release of a variety of databases. NDL plans to continue to carefully monitor usage of its Web site in an attempt to best meet the needs of a wide range of users nationally and internationally. Country statistics indicate that 32% of the hits on the NDL Web site are Network, 23% US Commercial, 21% are Unresolved, 6% US Educational, 3% Canada, 1.5%

Australia, and lesser percentages from a variety of other countries.

## 5. Significance of the NDL Web site

The Web site is NDL's primary means of disseminating all information, whether databases, documentation about products and services, or links to related sites. Data from our products form the core data for commercial databases in the US as well as for some international databases and are used in many special application databases by food industry and research institutions. The USDA's Food Safety and Inspection Service has specifically approved SR for use in labeling of meat and poultry products. In addition, the USDA Food and Nutrition Service uses SR as the basis for its Child Nutrition Database. Within the federal government, these data are used in epidemiological research, developing dietary treatment of disease, providing dietary guidance for healthy individuals, and in planning and implementation of national nutrition policies. NDL's Web site is dynamic; we will continue to add content and improve the information available. Check out the site on a regular basis to get the latest US food composition data.

## References

- Atwater, W., Woods, C., 1896. The chemical composition of American food materials. Office of Experiment Stations, US Department of Agriculture, Bulletin No. 28, 47pp.
- US Department of Agriculture (USDA), 2004. Compiling food composition data for 110 years. Agricultural Research Service, Nutrient Data Laboratory Web site, <http://www.ars.usda.gov/ba/bhnrc/ndl> (accessed December 20, 2005).